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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,864	07/09/2003	Yasuo Inoue	29284/593	8161

7590 09/11/2006
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Washington, DC 20005

EXAMINER
CHEN, ALAN S

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	10/614,864	INOUE, YASUO	
	Examiner	Art Unit	
	Alan S. Chen	2182	

All participants (applicant, applicant's representative, PTO personnel):

(1) Alan S. Chen. (3) _____.

(2) David Zibelli. (4) _____.

Date of Interview: 06 September 2006.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: 1.

Identification of prior art discussed: Carteau et al.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.


Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: proposed amendment (attached) appears to overcome the prior art reference to Carteau et al. However, further search and consideration into the new structural limitations is needed.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

9/6/06

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

PATENT
Serial No. 10/614,864
Docket No. 29284-593

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Yasuo Inoue
Serial No. : 10/614,864
Filed : July 9, 2003
For : EXTERNAL STORAGE SUBSYSTEM
Group : 2182
Examiner : Alan S. Chen

AMENDMENT

Mail Stop – No Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

7/11/06
In response to the ~~February 9, 2006~~ Office Action, please amend the above-identified application as follows:

DC01 605859 v1

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IN THE CLAIMS:

1. (Currently Amended) A storage system comprising:
 - a channel unit that transfers data sent from an upper-level system and transfers data to said upper-level system;
 - a plurality of cache units which are coupled to said channel unit and in which data sent from said channel unit is stored;
 - a control unit that is coupled to said cache units, and transfers or receives data to or from said cache units;
 - at least one first processor controlling transfer of data between said channel unit and said plurality of cache units;
 - at least one second processor controlling transfer of data between said control unit and said plurality of cache units;
 - a disk device in which data sent from said control unit is stored; and
 - a plurality of paths coupling said channel unit to said plurality of cache units, a first one of said paths coupling said channel unit to a first one of said cache units, a second one of said paths coupling said channel unit to a second one of said cache units, and a third one of said paths coupling said first one of said cache units to said control unit, wherein
said first one of said paths has no overlap with said second one of said paths.
2. (Canceled)
3. (Original) A storage system according to Claim 2, wherein said first path and said second path are independent of each other.
4. (Original) A storage system according to Claim 2, wherein said first path is dedicated to communication between said first cache unit and said channel unit.
5. (Original) A storage system according to Claim 4, wherein said second path is dedicated to communication between said second cache unit and said channel unit.

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6. (Original) A storage system according to Claim 1, wherein among said plurality of paths, a path linking said channel unit and a predetermined cache unit included in said plurality of cache units is not the same as a path linking said channel unit and an other cache unit included in said plurality of cache units.

7. (Original) A storage system according to Claim 2, wherein said first path directly links said first cache unit to said channel unit.

8. (Original) A storage system according to Claim 7, wherein said second path directly links said second cache unit to said channel unit.

9. (Original) A storage system according to Claim 2, wherein said first path links said first cache unit to said channel unit on a point-to-point basis.

10. (Original) A storage system according to Claim 9, wherein said second path links said second cache unit to said channel unit on a point-to-point basis.

11. (Previously Presented) A storage system according to Claim 1, wherein said disk device includes a plurality of disk drives, and said control unit is coupled to said plurality of disk drives.

12. (Original) A storage system according to Claim 1, wherein said plurality of paths are signal lines linking said channel unit and said plurality of cache units.

13. (Original) A storage system according to Claim 1, wherein said plurality of paths are used to communicate a reading request, which is issued from said upper-level system, from said channel unit to one of said plurality of cache units, and used to communicate data read from said plurality of cache units to said channel unit.

14. (Original) A storage system according to Claim 1, wherein said plurality of paths includes a number of paths equal to a number of cache units included in said plurality of cache units.

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15. (Previously Presented) A storage system according to Claim 1, wherein said plurality of paths are used to communicate a writing request, which is issued from said upper-level system, and used to communicate data written from said channel unit to one of said cache units.

16. (Currently Amended) A storage system comprising:
a channel unit that transfers data sent from an upper-level system and transfers data to said upper-level system;
a plurality of cache units in which data sent from said channel unit is stored;
a control unit that is coupled to said cache units, and transfers or receives data to or from said cache units;
at least one first processor controlling transfer of data between said channel unit and said plurality of cache units;
at least one second processor controlling transfer of data between said control unit and said plurality of cache units;
a disk device in which data sent from said control unit is stored; and
a first path coupling said channel unit to a first one of said plurality of cache units, and a second path coupling said first one of said plurality of cache units to said control unit, and a third path coupling said control unit to a second one of said plurality of cache units, wherein said first path ~~is different from~~ has no overlap with said second path or said third path.

17. (Previously Presented) A storage system according to claim 16, wherein said first path and said second path are independent of each other.

18. (Currently Amended) A storage system according to Claim 16, wherein said first path directly links said first channel unit to said first one of said plurality of cache units.

19. (Currently Amended) A storage system according to Claim 16, wherein said first path links said first channel unit to said first one of said plurality of cache units on a point-to-point basis.

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20. (Currently Amended) A storage system according to Claim 16, wherein said first and second paths are used to communicate a writing request, which is issued from said upper-level system, and used to communicate data written from said channel unit to first one of said plurality of cache units.

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REMARKS

Claims 1-20 are pending. By this amendment, claims 1 and 11 are amended.

For the above reasons, it is submitted that the application is in condition for allowance.
Prompt consideration and allowance are solicited.

The Office is hereby authorized to charge any additional fees or credit any overpayment
to Deposit Account No. 11-0600.

Should the Examiner have any questions concerning this matter, he is invited to contact
Applicant's undersigned attorney at 202/220-4334.

Respectfully submitted,

Date: August , 2006

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